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STATISTICAL BULLETIN

METROPOLITAN LIFE INSURANCE COMPANY

VOLUME XIV MARCH · 1933 NUMBER 3

Automobiles Kill Fewer Children

AT LAST, the automobile hazard to life and limb appears to be coming under control. This is indicated, first by the decline in 1932 in the total number of deaths, and even more by the marked reduction in the number of child victims. It has been for years one of the most ominous features of the automobile mortality situation that children were the commonest victims. Until fairly recently, nearly one-fourth of those who were killed by automobiles were children. A few years ago, however, a movement was organized to meet this situation. This ripened into a campaign, almost national in its scope, centering around the schools and the police departments, as it was felt that this was a field in which a large saving of life could be effected. Large insurance companies participated; women's organizations began to attack the problem; school-boy patrols were organized; talks to school children were given by experts in accident prevention; safety literature was distributed—in some instances by the children themselves. All of this has operated to make them more conscious of street dangers. Now, instead of one automobile fatality in every four affecting children, less than one-fifth of all the automobile fatalities are those of children.

It is particularly gratifying to find that last year there was a decline of nearly 17 per cent. in the automobile accident mortality rate of children as compared with the figure for 1931; and that the year 1932 was the third successive year in which there had been a sizable drop in the deathrate of children from this cause. In 1930 and 1931, sizable gains were made in spite of the large increase in the number of cars on the road in those years. Apparently the campaigns that have been inaugurated have proved successful in combating this hazard to child life.

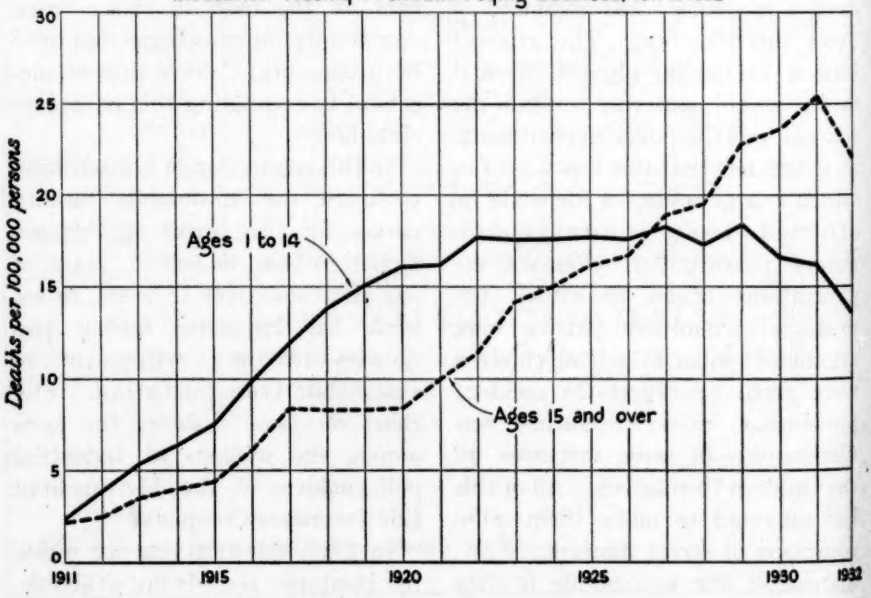
In this connection, it is interesting to trace the automobile fatality curves for two broad age classes, namely, those under 15 years of age and those over 15 years, to see what has happened during two decades of the development of automobile transportation. The chart on page 2 shows the facts among the millions of Industrial policyholders of the Metropolitan Life Insurance Company.

In 1911, the first year for which the insurance records are available,

the number of automobile fatalities was 2.2 per 100,000 insured lives at ages 15 and over, and only slightly higher among children. If we follow the curve for ages 15 and over, we see that, except for a very few years in which the deathrate remained practically level, there was a continuous rise up to and including the year 1931. For children, on the other hand, the constantly rising deathrate is in evidence only up to the year 1922. Then followed a five-year period with practically no change in the deathrate; since 1929, there has been a continuous and pronounced drop. Beginning with the year 1927 and through 1931, the graph shows that while the deathrate for adults continued to increase, that for children persistently declined. As a result of these diverging trends, the adult automobile deathrate in 1932 was 63 per cent. higher than that for children. It is particularly gratifying that the declining automobile fatality rate in childhood has occurred among children of insured wage-earners in our cities—the very group among whom the problem has always been most acute. It is to be hoped that the preventive programs which have proved so successful in a large number of communities will be continued, and even extended in the immediate future, in order to provide protection for an ever increasing number of our child population.

DEATHRATES IN AUTOMOBILE ACCIDENTS

Metropolitan Life Insurance Company
Industrial Weekly Premium Paying Business, 1911 to 1932



Industrial States Decline Most in Births

IN SO FAR as it has been possible to judge from the partial data available, the decline in the birthrate during the last ten years has been practically countrywide. Unfortunately, data for only 26 of the 48 states, and for the District of Columbia, are obtainable for both 1931 (the latest year for which the facts have been published) and for 1921; but, without exception, the birthrate has dropped in these 27 areas.

There has been, however, a wide divergence in the rate of decline, as will be seen in the accompanying table where the states have been arranged according to their 1931 birthrates.

The three Pacific Coast states had the lowest birthrates in 1931; and Oregon and Washington at the same time rank among the 10 which show the greatest declines in the ten-year period. California just escapes inclusion in this group of ten states.

The most interesting and possibly the most significant fact brought out in the table is that the greatest declines in the birthrate have occurred in the states of the northeastern section of the country where the population is highly industrialized. Connecticut shows the very largest drop (34.9 per cent.) and is closely followed by New Jersey, with 34.5 per cent. These two states stand out in rather bold relief from all the rest; for there is a sizable gap between them and still another industrial state, Massachusetts, which shows the third largest decrease (31.8 per cent.). Rhode Island had the fifth largest decline, Pennsylvania the ninth, and the drop in New York State was well above the average for these 27 states. Even in North Carolina, which suffered the fourth largest decline, there was a considerable increase in the industrial population during this ten-year period. It seems hardly possible, however, that this alone is sufficient to account for so large a decline as the one of 31.1 per cent. observed in North Carolina's birthrate.

In the few Southern and "Border" states included in the table, the situation is widely divergent. North Carolina, as we have just observed, suffered a large decline; so did Virginia with a drop of 29.5 per cent. and Maryland with one of 30.0 per cent. In Mississippi, on the other hand, the drop was only 11.9 per cent. and in the District of Columbia, which is really a city rather than a state, the smallest decline of all (5.9 per cent.) was registered.

Among states with largely agricultural populations, Oregon, Washington, New Hampshire and Virginia were those to suffer above-average drops in the birthrate. Maine and Mississippi, on the other hand, suffered the smallest declines; and Wisconsin, Minnesota, Vermont, Nebraska and Kentucky recorded below-average decreases.

Decrease in the Birthrate per 1,000 Population. Twenty-six States and the District of Columbia. 1921 and 1931 Compared

State	Birthrate per 1,000 Population		Per Cent. Decline 1931 from 1921
	1931	1921	
Oregon	13.6	19.1	28.8
California	13.9	19.3	28.0
Washington	13.9	19.7	29.4
New Jersey	15.6	23.8	34.5
Connecticut	15.7	24.1	34.9
Massachusetts	16.1	23.6	31.8
New York	16.1	22.4	28.1
Ohio	16.1	22.0	26.8
Rhode Island	16.3	23.5	30.6
New Hampshire	16.6	22.7	26.9
Indiana	17.2	22.9	24.9
Kansas	17.3	23.3	25.8
Delaware	17.4	22.5	22.7
Maryland	17.5	25.0	30.0
Minnesota	18.2	23.8	23.5
Wisconsin	18.3	23.0	20.4
Michigan	18.4	25.1	26.7
Pennsylvania	18.4	25.9	29.0
Vermont	18.4	22.4	17.9
District of Columbia	19.0	20.2	5.9
Nebraska	19.0	24.6	22.8
Maine	20.2	22.9	11.8
Kentucky	21.3	27.5	22.5
Virginia	21.3	30.2	29.5
South Carolina	22.2	29.8	25.5
Mississippi	22.3	25.3	11.9
North Carolina	23.0	33.4	31.1

Pronounced differences appear in certain states which adjoin one another and which call for special study. For example, the drop in New Hampshire has been more than twice that in Maine and 50 per cent. more than in Vermont. All three are states with large rural populations and negligent negro populations. The drop in South Carolina is much less than that in North Carolina, and the decline in Kentucky about one-fourth less than that in Virginia.

New Mexico and Nevada, the states which recorded the highest and the lowest birthrates in the country, in 1931, are not included in the accompanying table, because both were admitted to the United States Birth Registration Area since 1921; and it is thus impossible to determine the extent to which their natality rates have dropped during this ten-year period. New Mexico's 1931 birthrate was 28.4 per thousand population and Nevada's 13.2. Both were admitted in 1929, and there was actually a slight increase in the birthrate in New Mexico during the short period of three years for which the facts are obtainable. This may

well reflect the improvement in birth registration in recent years. In Nevada, the drop has been small. In Arizona, admitted in 1926, there has been no general downward trend in the birthrate, although a sharp drop was recorded in the year 1931. Arizona, like New Mexico, has a large Mexican population; and it is extremely probable that the Mexicans constitute the one racial element of the population which is not sharing in the declining birthrate. In several of the states, admitted to the Birth Registration Area since 1921, the birthrate showed either a slight upward trend, or no appreciable change until the year 1931. The most conspicuous examples of this are Arkansas (admitted in 1927), Georgia (1928), Idaho (1926), North Dakota (1924), Oklahoma (1928), and Tennessee (1927).

Georgia has the distinction of being the only state to show a higher birthrate in 1931 than in 1930. In Oklahoma (17.7) and Wyoming (19.8), the figures were identical for the two years.

The Chances of Dying from Angina Pectoris

IN OUR last issue we dealt with the probability of dying from organic heart disease. According to the classification adopted (International List of Causes of Death) this term expressly excludes angina pectoris. Aside from considerations of classification and etiology, however, a separate discussion of angina pectoris is of special interest because the deathrate from this disease has exhibited an exceptionally rapid rate of increase during the past decade. This fact is well brought out in the first panel of the accompanying chart which portrays the series of standardized* deathrates from angina pectoris over the period of years 1911 to 1930 among white Industrial policyholders of the Metropolitan Life Insurance Company. As the disease rarely occurs among younger persons, the graph has been drawn for the standardized deathrates in the age group 45 to 74 years among males and females separately. Trend lines have also been fitted separately to the period 1911 to 1919 and 1919 to 1930.

It will be seen that, especially among white males, there has been a strong upturn in the trend in the second of these two periods. How extreme this recent upgrade has been may be gathered from the fact that the average deathrate from angina pectoris among white males at ages 45 to 74 in the three years 1919, 1920, 1921 was 36 per hundred thousand, while in the three years 1928, 1929, 1930, it was 76.9; that is, more than double the former figure. Among females, the increase has been less extreme, namely, from 18.2 in 1919-1921 to 33.3 per hundred thousand in 1928-1930.

The disease is predominantly one of men, and this characteristic has

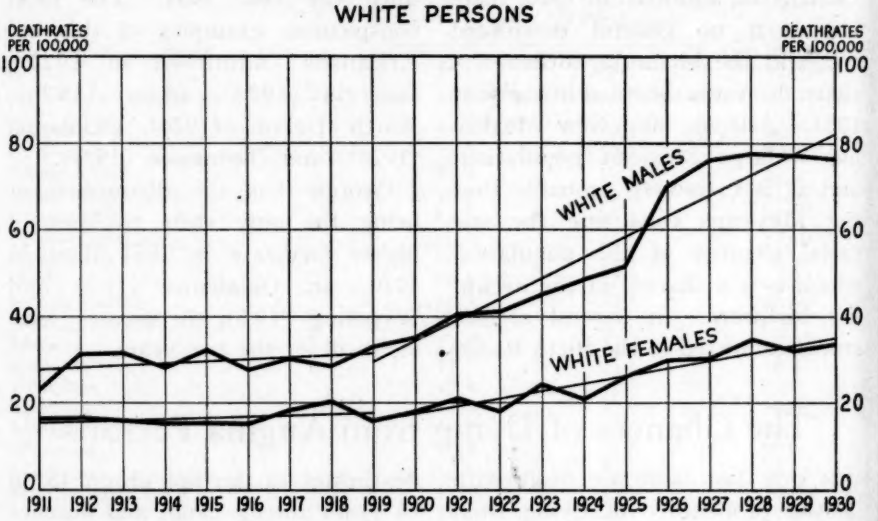
*Standardized on the "Standard Million," England and Wales, 1901.

ANGINA PECTORIS

STANDARDIZED*DEATHRATES PER 100,000 IN AGE GROUP 45-74 YEARS

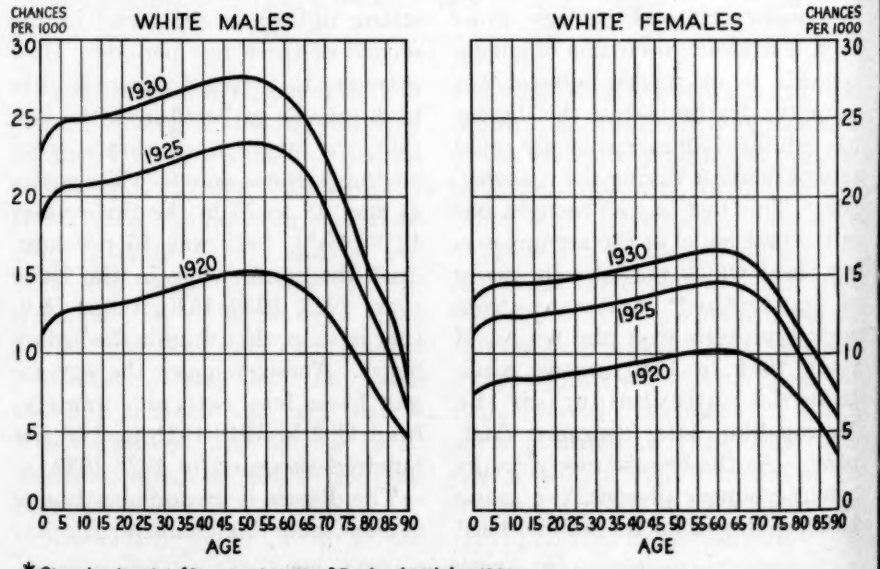
Metropolitan Life Insurance Co., Industrial Department, 1911 - 1930

WHITE PERSONS



CHANCES PER THOUSAND OF EVENTUALLY DYING FROM ANGINA PECTORIS

U.S. REGISTRATION STATES OF 1920 IN 1920, 1925, 1930



Standardized on "Standard Million," England & Wales 1901

become greatly emphasized in the past decade. The irritations and worries incidental to the daily routine of the worker, which presumably fall somewhat more heavily upon the male than the female, are probably, in part at least, responsible for this differential effect, for it is well known that persons suffering from the disease are very adversely affected by worry and irritation.

The upward trend in the deathrate from angina pectoris is naturally reflected in the chances of eventually dying from this complaint. For a white male at the age of 30, according to the mortality observed in the United States Registration States of 1920, the chances were 14 per 1,000 in the year 1920, 22 per 1,000 in the year 1925, and 26 per 1,000 in 1930. The corresponding figures for white females at age 30 were 9 per 1,000 in 1920, 13 per 1,000 in 1925, and 15 per 1,000 in 1930. These figures are selected by way of example. The general course of events with advancing age is seen by an inspection of the lower panels of the accompanying chart. The three curves representing conditions in 1920, 1925 and 1930 are there seen one above the other in the order enumerated. They are convex upward, with a maximum at about age 50 in the case of males, and 60 for females. The maximum for males in 1930 is 27.6 chances per 1,000. This means that, at the age of 50 years, rather more than one in forty white males must be expected eventually to die of angina pectoris under present conditions. In 1920, the corresponding chances were only 15.2 per 1,000, or about one in sixty-five. The study of this disease, with a view to shedding light on some of the reasons for the increases we have enumerated above, presents an extraordinary research opportunity to physicians especially concerned with the care of cardiac cases.

Health Record for February, 1933

THE February health record of the industrial populations of the United States and Canada was much better than that for January. This is due, principally, to large declines in the mortality from influenza and pneumonia, together with drops in the deathrates from heart disease, cerebral hemorrhage, chronic nephritis and diabetes. The February deathrate of 9.5 per thousand, for all causes combined, is well below the average for the second month of the year. There was an increase, as compared with February, 1932, of 1.1 per cent. in the Pacific Coast and Mountain States; in the rest of the United States, the rise amounted to 9.5 per cent.; and among insured Canadians, it was 3.1 per cent.

The cumulative deathrate for the first two months of 1933 is 16.6 per cent. higher than that for the like part of 1932; but it should be remembered that both January and

February of last year registered the lowest mortality rate of all time for these particular months. The situation is now back to normal. The unfavorable health conditions of last winter definitely cleared up with the waning of the influenza epidemic. Reports for the early weeks of March already show fewer death claims paid by the Metropolitan Life Insurance Company than during the corresponding weeks of last year. It is still possible for the year 1933 to record as good a mortality rate as last year and better than for 1931.

The more important individual causes of death to show materially higher cumulative mortality rates than for the first two months of last year are influenza, cancer, diabetes, cerebral hemorrhage, pneumonia, heart disease and chronic nephritis. We believe that, in the case of all of these conditions, the widespread prevalence of influenza had much to do with the high deathrates. The mortality from these diseases invariably rises during widespread influenza epidemics.

We consider the more than 10 per cent. increase in the cancer deathrate, as compared with last year, to be the most disturbing item in the health picture of the early months of 1933. This increase, it must be borne in mind, follows sharp rises, which occurred in both 1931 and 1932.

A favorable development of the early part of 1933 is the continued drop in the mortality from tuberculosis, in striking contrast to the considerable rises for other important diseases. The decrease in the tuberculosis rate is small, it is true, but it is remarkable that any drop at all is in evidence. What has happened with respect to tuberculosis augurs well for a further reduction in its deathrate this year, to a new low point. The cumulative mortality rate for diphtheria is only a little over one-half the figure for the like part of 1932. Deaths from puerperal causes are also running lower than ever before, at this season of the year; but the declining birthrate may be playing an important part in this.

The accident and suicide deathrates are a little higher than for the January-February period of 1932. A decided drop, however, is shown for automobile fatalities.

The deathrate in the large cities (general population) during February was 12.2 per thousand estimated population, as compared with 13.1 in January and with 12.3 in February, 1932. The diseases which increased in prevalence during February were measles, scarlet fever and smallpox; those which declined were diphtheria, influenza, poliomyelitis and typhoid fever. Comparison with February a year ago shows more sickness from influenza and measles, together with fewer cases of diphtheria, poliomyelitis, scarlet fever, smallpox and typhoid fever.

Reports of influenza in February took a large drop from the excessively high figures reported for December and January. The February cases, as a matter of fact,

were at about the normal figure for that month. The most marked cases of decline, as compared with January, were in Wisconsin, Kansas, Arkansas and Montana.

Reports from 29 states show that measles cases almost doubled in February, with 39,677 reports, as compared with 20,288 in January. Particularly large increases were reported for New Jersey, Pennsylvania, Michigan, Minnesota, Texas and California. The increases for scarlet fever and smallpox were invariably moderate.

Reports from 46 states show only 49 cases of poliomyelitis in February, as compared with 78 in January.

The following items are of special public health interest. The establishment of the UNITED STATES PHARMACOPEIAL VITAMIN ADVISORY BOARD for the preparation and distribution of vitamin standards has been announced. International vitamin standards for vitamins A, B and D, sent to this country by the PERMANENT STANDARD COMMISSION of the HEALTH ORGANIZATION OF THE LEAGUE OF NATIONS, are to be issued without cost, but only for scientific research. The tuberculin testing of school children in Chicago was begun recently under a plan worked out by the CHICAGO TUBERCULOSIS INSTITUTE and the Superintendent of Schools. A public health council has been established in De Witt County, Illinois, as the outgrowth of a diphtheria prevention campaign sponsored, about a year ago, by the County Medical Society. Membership is open to physician members of this Society, to officials of the schools, and to two representatives of any other organization in the county interested and willing to participate in the activities and purposes of the Council. A broad public health program will be carried on through committees. The Provincial Government of Ontario has arranged, in cooperation with QUEENS UNIVERSITY, to establish a cancer institute or clinic at the KINGSTON GENERAL HOSPITAL.

According to newspaper reports, the experimental health program carried on by the W. K. KELLOGG FOUNDATION, Battle Creek, has been extended to Eaton County. Following the Foundation's plan carried out in Allegan and Barry counties, a unit will be established in Eaton County to supervise child health work, in cooperation with the schools. A minimum of $12,000 annually will be allocated by the Foundation to the county for the work, which will include the services of a health officer, public health nurse and sanitary inspector.

THE AMERICAN SOCIETY FOR THE CONTROL OF CANCER recently announced, through its executive committee, that a board of directors, composed of fifty physicians, surgeons, chemists, biologists, statisticians and financiers, would serve as a consulting board to advise on any problems of cancer research or treatment that may be submitted to it by individuals or institutions.

The MASSACHUSETTS DIVISION OF

UNIVERSITY EXTENSION and the STATE SOCIETY FOR MENTAL HYGIENE are conducting five courses in mental hygiene, each to consist of eight lectures. These courses will be given in Boston, Brockton, Leominster, New Bedford and Newton.

According to press reports, an X-ray machine which will generate 1,500,000 volts of electricity has been installed in HARPER HOSPITAL, DETROIT, at a cost of $50,000. It is the largest machine of its kind on this continent and its ray will have a potency of 725,000 volts. The tube will serve two patients at once, one directly in front of it and one underneath.

In a hookworm survey carried on by the MISSISSIPPI STATE BOARD OF HEALTH, in cooperation with the department of preventive medicine, Vanderbilt University School of Medicine, and the INTERNATIONAL HEALTH DIVISION of the ROCKEFELLER FOUNDATION, the examinations in eight counties in the state have been completed. The survey was begun September 1, 1932. According to a recent announcement, one of the major activities of the Department of Studies of the NATIONAL LEAGUE OF NURSING EDUCATION during the coming year will be field nursing. The League believes, it was stated, that the most important service it can render to the hospital, to the community and to nursing, is field service.

The following table shows the mortality among Industrial policyholders for February, 1933; January, 1933, and February, 1932, together with the cumulative rates for the first two months of each year.

METROPOLITAN LIFE INSURANCE COMPANY

Deathrates per 100,000 for Principal Causes. Weekly Premium-Paying Business in Industrial Department. All Ages (Annual Basis)*

MONTHS OF FEBRUARY, 1933; JANUARY, 1933 AND FEBRUARY, 1932

CAUSES OF DEATH	ANNUAL RATE PER 100,000 LIVES EXPOSED*				
	Feb. 1933	Jan. 1933	Feb. 1932	Cumulative Jan.–Feb.	
				1933	1932
TOTAL—ALL CAUSES	954.8	1077.7	878.6	1019.2	874.2
Typhoid fever	1.0	.8	1.5	.9	1.5
Measles	1.3	1.5	2.4	1.4	2.3
Scarlet fever	3.5	4.3	3.6	3.9	3.0
Whooping cough	2.2	3.3	3.4	2.8	3.1
Diphtheria	3.1	3.6	6.5	3.4	6.3
Influenza	46.9	81.6	22.5	65.1	18.9
Tuberculosis (All forms)	65.7	68.7	70.0	67.3	68.8
Tuberculosis of respiratory system	59.2	63.3	63.0	61.4	61.5
Cancer (All forms)	93.4	94.6	86.9	94.0	85.1
Diabetes mellitus	25.6	32.4	22.3	29.2	22.2
Cerebral hemorrhage, apoplexy	70.8	75.1	61.7	73.0	63.8
Diseases of heart†	181.9	206.5	158.1	194.8	157.4
Pneumonia (All forms)	94.8	124.8	84.3	110.5	84.0
Other respiratory diseases	13.1	13.0	12.3	13.0	11.4
Diarrhea and enteritis	6.4	7.6	7.8	7.0	8.1
Chronic nephritis (Bright's disease)	72.2	76.1	68.0	74.2	70.4
Puerperal state—total	10.0	10.4	11.4	10.2	10.6
Suicides	8.7	11.1	10.4	10.0	9.5
Homicides	5.3	6.0	6.3	6.1	6.2
Accidents—total	47.2	55.8	44.6	51.7	49.0
Automobile accidents	15.6	19.4	15.7	17.6	19.6
All other diseases and conditions	200.9	200.4	194.5	200.6	192.5

*The rates for 1932 and 1933 are subject to slight correction, since they are based on provisional estimates of lives exposed to risk.

†Excluding pericarditis, acute endocarditis, acute myocarditis and angina pectoris.

Correspondence on the subjects discussed in these BULLETINS may be addressed to: The Editor,

STATISTICAL BULLETIN,

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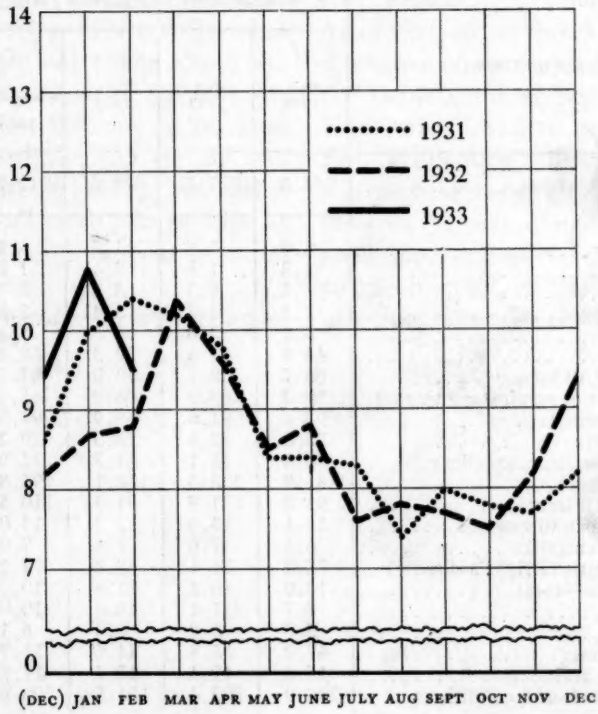
DEATHRATES FROM ALL CAUSES

in the Metropolitan Life Insurance Company
Industrial Department

DEATHRATE PER 1,000—ANNUAL BASIS



1931	10.0	10.4	10.2	9.8	8.4	8.4	8.3	7.4	8.0	7.8	7.7	8.2
1932*	8.7	8.8	10.4	9.6	8.5	8.8	7.6	7.8	7.7	7.5	8.2	9.4
1933*	10.8	9.5										

**Rates for 1933 and 1932 are provisional.*

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